

IN THE CLAIMS

The following is a listing of the claims in accordance with 37 C.F.R. §1.121.

1. (currently amended) A CT imaging system, comprising:

an X-ray source comprising two or more ~~discrete~~ emission points that are offset from one another such that the emission points sample substantially different portions of a field of view, ~~wherein each emission point, when activated, emits a respective conical or fan-shaped stream of radiation through a respective portion of a field of view such that successive emissions by different emission points occur at different view angles;~~

a rotatable detector array comprising a plurality of detector elements, wherein each detector element may generate one or more signals in response to the ~~respective~~ streams of radiation; and

a system controller configured to control the two or more emission points ~~and to acquire the one or more signals from the plurality of detector elements.~~

2-6. (canceled)

7. (previously presented) The CT imaging system as recited in claim 1, wherein the X-ray source comprises duplicate emission points along the longitudinal axis.

8. (previously presented) The CT imaging system as recited in claim 1, wherein the X-ray source comprises offset emission points along the longitudinal axis.

9. (currently amended) The CT imaging system as recited in claim 1, wherein the two or more emission points are rotated about the field of view such that each emission point, when activated, emits a respective stream of radiation from a respective view ~~angle~~.

10. (previously presented) The CT imaging system as recited in claim 9, wherein the two or more emission points are rotated by mechanically rotating the emission points about the field of view.

11-12. (canceled)

13. (currently amended) The CT imaging system as recited in claim 9, wherein a first subset of the two or more emission points are activated at a first set of view-angles and wherein a second subset of the two or more emission points are activated at a subset of the first set of view-angles.

14. (currently amended) The CT imaging system as recited in claim 13, wherein the first set of view-angles comprises every view angle and wherein the subset comprises every other view angle.

15. (currently amended) The CT imaging system as recited in claim [[9]] 1, wherein the flux of each respective stream of radiation is determined based on at least the respective view angle.

16. (previously presented) The CT imaging system as recited in claim 1, further comprising:

a computer system configured to receive the one or more signals and to process the one or more signals to generate one or more images; and

an operator workstation configured to display the one or more images.

17. (currently amended) A method for CT imaging, the method comprising the acts of:

emitting [[a]] respective ~~conical or fan-shaped~~ streams of radiation from each of two or more X-ray emitters that are offset from one another such that the X-ray emitters sample substantially different portions of a field of view ~~through a respective portion of a~~

~~field of view, wherein successive emissions by different emission points occur at different view angles; and~~

acquiring a plurality of signals from a rotatable detector, wherein the plurality of signals are generated in response to the respective streams of radiation.

18. (currently amended) The method as recited in claim 17, wherein emitting the respective ~~conical or fan-shaped~~ streams of radiation comprises activating a first set of emission points at a first set of view-angles and activating a second set of emission points at a second set of view-angles.

19. (currently amended) The method as recited in claim 18, wherein the second set of view-angles comprises a subset of the first set of view-angles.

20. (currently amended) The method as recited in claim 17, further comprising the act of:

determining the flux of each stream of radiation based on at least the respective view-angle.

21. (previously presented) The method as recited in claim 17, comprising mechanically rotating the two or more X-ray emitters about the field of view.

22. (canceled).

23. (currently amended) A computer program, provided on one or more computer readable media, for imaging a field of view, comprising:

a routine for emitting ~~[[a]]~~ respective ~~conical or fan-shaped~~ streams of radiation from each of two or more X-ray emitters that are offset from one another such that the X-ray emitters sample substantially different portions of a field of view through a respective

~~portion of a field of view, wherein successive emissions by different emission points occur at different view angles;~~

a routine for acquiring a plurality of signals from a rotatable detector, wherein the plurality of signals are generated in response to the respective streams of radiation.

24. (previously presented) The computer program as recited in claim 23, further comprising:

a routine for acquiring a plurality of signals from a detector, wherein the plurality of signals are generated in response to the respective streams of radiation; and

a routine for processing the plurality of signals to generate one or more images.

25. (currently amended) The computer program as recited in claim 23, wherein the routine for emitting the respective ~~conical or fan-shaped~~ streams of radiation activates a first set of emission points at a first set of view-angles and activates a second set of emission points at a second set of view-angles.

26. (currently amended) The computer program as recited in claim 25, wherein the second set of view-angles comprises a subset of the first set of view-angles.

27. (currently amended) The computer program as recited in claim 23, comprising:

a routine for determining the flux of each stream of radiation based on at least the respective view-angle.

28. (canceled)

29. (currently amended) A CT imaging system, comprising:

an X-ray source comprising two or more azimuthally offset emission points, wherein each emission point, when activated, emits a ~~respective conical or fan-shaped~~

stream of radiation that circumscribes a different radial region ~~through a respective portion of a field of view than the other emission points;~~

an X-ray controller configured to activate the two or more emission points ~~such that only one emission point is active at a time and each emission point is activated at a different view angle than the preceding emission point;~~

a rotatable detector array comprising a plurality of detector elements, wherein each detector element may generate one or more signals in response to the respective streams of radiation.

30. (new) A CT imaging system, comprising:

an X-ray source comprising two or more discrete emission points, wherein X-rays emitted by each emission point pass through substantially non-overlapping regions of a field of view;

a rotatable detector array comprising a plurality of detector elements, wherein each detector element may generate one or more signals in response to the emitted X-rays; and

a system controller configured to control the two or more emission points.

31. (new) The CT imaging system as recited in claim 1, wherein at least one emission point emits a respective stream of radiation that passes through the central region of the field of view and at least one emission point emits a respective stream of radiation that does not pass through the central region of the field of view.

32. (new) The CT imaging system as recited in claim 1, wherein at least one emission point is activated less frequently than at least one other emission point.

33. (new) The CT imaging system as recited in claim 1, wherein at least one emission point is activated for less time than at least one other emission point.

34. (new) The CT imaging system as recited in claim 1, wherein at least one emission point is operated at a lower energy than at least one other emission point.

35. (new) The CT imaging system as recited in claim 1, wherein at least one emission point is operated at a lower flux than at least one other emission point.

36. (new) The CT imaging system as recited in claim 1, wherein a radiation dose delivered by the CT imaging system is adjustable by operating at least one emission point differently than at least one other emission point such that at least one of the number of activations, the durations of activation, the energy or the flux of the respective emission points differ.

37. (new) The CT imaging system as recited in claim 1, wherein the two or more discrete emission points are differentially operated based on view to maintain a substantially uniform flux profile at the detector array.

38. (new) The CT imaging system as recited in claim 1, wherein the two or more emission points are radially offset from one another.

39. (new) The CT imaging system as recited in claim 1, wherein the different portions of the field of view are different radial portions of the field of view.